

Amendments to the Claims

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Canceled)
2. (New) An inspection method for inspecting a specimen comprising:
directing a beam onto the specimen located on a stage;
guiding a secondary beam from the specimen to a sensor;
receiving the secondary beam by the sensor synchronized to a movement of the stage for imaging the specimen;
detecting a defective place on a surface of the specimen in an image obtained by the imaging; and
observing a defect of the defective place.
3. (New) The inspection method according to claim 2, wherein the defective place on the surface of the specimen is a whole surface of the specimen.
4. (New) The inspection method according to claim 2, wherein the observing is conducted by a second image sensor different from the sensor.
5. (New) An inspection apparatus for detecting a defect on a specimen, comprising:
a movable stage that positions a specimen;
an irradiator having a heater for irradiating an electron beam onto an irradiation region of the specimen to generate a secondary beam;
at least two detectors that detect the secondary beam which has at least one of a secondary electron or a reflected electron, wherein each of the at least two detectors generates an image of the irradiation region from the detected secondary beam;

an imaging electron optical system arranged between the specimen and the at least two detectors for imaging the secondary beam on a detection surface of each of the at least two detectors; and

a changeover that selectively directs the secondary beam from the specimen to one of the at least two detectors.

6. (New) The inspection apparatus according to claim 5, wherein the at least two detectors comprise an array imaging element or a two-dimensional imaging element.

7. (New) The inspection apparatus according to claim 5, wherein at least one of the two detectors comprises a TDI array CCD sensor.

8. (New) An inspection method for detecting a defect of a specimen comprising:
directing a rectangular or an elliptical shaped primary beam to the specimen;
deflecting the primary beam in a direction substantially perpendicular to an irradiation region of the specimen so as to irradiate the irradiation region to produce a secondary beam from the specimen;

guiding the secondary beam to a detector; and

projecting an image of the irradiation region of the specimen onto a detector surface of the detector.

9. (New) The inspection method according to claim 8, wherein the secondary beam has two-dimensional picture information of the irradiation region of the specimen.

10. (New) The inspection method according to claim 8, wherein guiding the secondary beam to a detector comprises guiding the secondary beam to the detector rectilinearly.

11. (New) The inspection method according to claim 8, wherein the rectangular or elliptical shaped primary beam is irradiated to the specimen after passing through a Wien filter.

12. (New) The inspection method according to claim 8, further comprising decelerating the primary beam by a retarding voltage of a cathode lens before irradiating the primary electron beam to the specimen.

13. (New) An inspection method for detecting a defect of a specimen comprising:
directing a primary beam to the specimen;
deflecting the primary beam in a direction substantially perpendicular to an irradiation region of the specimen so as to irradiate the irradiation region to produce a secondary beam from the specimen;
guiding the secondary beam to a detector; and
detecting the secondary beam on a TDI array CCD sensor or a two-dimensional CCD sensor, the detected secondary beam having two-dimensional picture information of the irradiation region of the specimen.

14. (New) The inspection method according to claim 13, wherein the detecting step comprises:
moving a stage holding the specimen; and
imaging by shifting a signal charge in the TDI array CCD sensor according to the movement of a stage, wherein the TDI array CCD sensor adds a number of horizontal scan lines so that a same signal charge of a same place can be enumerated.

15. (New) The inspection method according to claim 13, wherein guiding the secondary beam to a detector comprises guiding the secondary beam to the detector rectilinearly.

16. (New) An inspection method for detecting a defect of a specimen comprising:
irradiating a primary beam to the specimen to produce a secondary beam from the specimen;

guiding the secondary beam to a detector, the secondary beam having two-dimensional picture information of an irradiation region of the specimen; and

projecting the secondary beam onto the detector to produce an image of the irradiation region of the specimen.

17. (New) The inspection method according to claim 16, further comprising:
acquiring a picture of the irradiation region of the specimen from the image of the irradiation region;
obtaining a difference value of an acquired picture of a region of the specimen and a template picture of a corresponding counterpart region;
determining whether the difference value exceeds a predetermined threshold value; and
determining that there is a defect in a region where the difference value exceeds the threshold value.

18. (New) An inspection method according to claim 16, wherein the primary beam is incident centrally on a Wien filter.

19. (New) An inspection method according to claim 16, further comprising decelerating the primary beam by a retarding voltage of a cathode lens before irradiating the primary electron beam to the specimen.

20. (New) An inspection method for detecting a defect of a specimen comprising:
irradiating a primary beam to the specimen to produce a secondary beam from the specimen;
guiding the secondary beam to a detector, the secondary beam having two-dimensional picture information of an irradiation region of the specimen;
projecting an image of the irradiation region of the specimen onto a two-dimensional CCD sensor;

specifying a defective place by comparing the image of the irradiation region of the specimen with a template image;

changing over the two-dimensional CCD sensor to a TDI array CCD sensor;

finding a position of the defective place from a signal of the TDI array CCD sensor; and

moving a stage holding the specimen so that the primary beam strikes the position of the defective place.

21. (New) An inspection method according to claim 20, further comprising a detecting step including:

moving the stage holding the specimen; and

imaging by shifting a signal charge in the TDI array CCD sensor according to the movement of a stage, wherein the TDI array CCD sensor adds a number of horizontal scan lines so that a same signal charge of a same place can be enumerated.

22. (New) The inspection method according to claim 20, wherein guiding the secondary beam to the detector comprises guiding the secondary beam to the detector rectilinearly.